

Notice of Allowability	Application No.	Applicant(s)	
	09/976,209	BENEDETTI, GIANPIETRO	
	Examiner	Art Unit	
	Sikyin Ip	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/30/03;3/22/04.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 13 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>3/22/04</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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DETAILED ACTION**Examiner's Amendment**

Authorization for this Examiner's Amendment was given in a telephone interview with Mr. James N. Baker on March 22, 2004.

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

This listing of claims below replaces all prior versions and listings of claims in the application:

1. (Currently Amended): A method for in-line heat treating of steel wire and bar product stock of varying cross sections and compositions, hot rolled in a rolling mill, comprising the combined steps, conducted in-line with the rolling mill, of:
 - a. cutting the rolled stock into pieces of predetermined length;
 - b. quenching the pieces of hot rolled stock in a quenching box;
 - c. in preparation for tempering of the quenched stock, preparing at least one layer of a predetermined number of cut pieces of stock in a layers preparation zone, with use of a layers preparation system, wherein the number of cut pieces of stock per layer depends on the section of the rolled stock;
 - d. tempering the prepared layer(s) of stock arranged in one or more level(s) in an on-line in-line annealing furnace for controlled cooling, holding or heating of the layer(s) of stock for obtaining various metallurgical microstructures;
 - e. providing a separating and discharging device;
 - ~~[[f]]~~ f. separating and discharging the layer(s) from the one or more level(s) into individual pieces of quenched and tempered stock with use of ~~[[a]]~~ the separating and discharging device; and
 - ~~[[g]]~~ g. cooling the quenched and tempered stock in a cooling bed; wherein
said items of equipment to carry out heat treatment of said stock of various cross sections are arranged in-line such that said heat treating steps and conditions are selectable in order to obtain the desired metallurgical microstructures for the various wire and bar product stock being heat treated while the wire and bar product stock is maintained in-line with the rolling mill.

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2. (Original): A method according to claim 1, wherein the pieces of hot rolled stock coming from the quenching box have a temperature in the range 50 to 150° C.

3. (Original): A method according to claim 1, wherein tempering takes place while holding the layers of stock at a temperature in the range 500 to 700° C for a time about 60 minutes to about 120 minutes.

4. (Original): A method according to claim 1, further comprising the step of induction heating the rolled and quenched stock in-line before preparing layers to help the following tempering of the rolled stock in the annealing furnace.

5. (Original): A method according to claim 1, wherein cooling in the quenching box is started from a temperature of about 800° C.

6. (Original): A method according to claim 1, further comprising a subsequent in-line finishing step selected from the group consisting of final cooling in a water box, shotblasting, cutting to final form, and packaging.

7. (Original): A method according to claim 1, wherein the cooling bed is provided with a protective atmosphere.

8. (Currently Amended): A method according to Claim 1, wherein the number of levels in the ~~on-line~~ in-line annealing furnace is two or more.

9. (Currently Amended): A method according to Claim 1, wherein said layers preparation system in said layers preparation zone is positioned inside the ~~on-line~~ in-line annealing furnace, and said separating and discharging device is positioned inside the ~~on-line~~ in-line annealing furnace.

10. (Currently Amended): A method according to Claim 1, wherein said layers preparation system in said layers preparation zone is positioned outside the ~~on-line~~ in-line annealing furnace, and said separating and discharging device is positioned outside the ~~on-line~~ in-line annealing furnace.

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In the specification:

Page 1, under the Title, line 2, after "1999", insert - - ,now U.S. Patent No. 6,336,980- -.

The following is an Examiner's Statement of Reasons for Allowance: See applicant's remarks filed December 30, 2003.

Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742